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*Amendment  
Attorney Docket No. MI15.2P-10607-US02*

**Remarks**

This Amendment is in response to the Office Action dated December 15, 2004.

Claims 1-24 are pending in this application. Claims 10-24 have been withdrawn from consideration. The Office Action rejects claims 1-4 asserting 35 USC § 103 over Kalm (US 6,286,660; hereinafter "Kalm '660") in view of either Garrity (US 5,060,785) or Loomer (US 5,730,274) or Kalm et al. (US 5,582,286; hereinafter "Kalm '286"). The Office Action rejects claims 1-5 and 9 asserting 35 USC § 103 over Kalm in view of either Garrity or Loomer or Kalm '286 and further in view of either Huber et al. (US 5,213,201; hereinafter "Huber") or Wielevski et al. (US 6,701,214; hereinafter "Wielevski") or Hall (US 5,285,887) or Taylor (5,862,907). The Office Action also rejects claims 1-4 and 6-9 asserting 35 USC § 103 over Kalm in view of either Garrity or Loomer or Kalm '286 and further in view of Itoh et al. (US 6,021,888; hereinafter "Itoh"). Applicants traverse the rejection of claims herein.

By this Amendment, claims 25-31 are added. It is believed that the new claims 25-31 fall within elected group I and further read upon elected Figures 3 and 5. Further support for the new claims may be found at least at page 5, line 27-page 6, line 19 and page 10, line 15-page 11, line 19. Reconsideration in view of the above amendments and the following remarks is respectfully requested.

**Claim Rejections**

The claim rejections as raised by the Examiner pursuant to 35 USC § 103 are traversed. Applicants assert that the Examiner has not established a prima facie case of obviousness because the applied references, as combined in the rejections, do not disclose all of the limitations of the claims herein. Further, Applicant asserts that there is no prior art motivation to modify the references as suggested by the Examiner.

Claim 1 recites "a first rail having a rail aperture," "a circuit board having a controller;" and "a sensor mounted to said circuit board;" and the circuit board "mounted to said first rail such that said sensor may detect the presence of an object...through said rail aperture."

The Examiner alleges that Kalm '660 discloses all of the claimed limitations except for a rail aperture. The Examiner alleges that Garrity, Loomer and Kalm '286 each teach a rail aperture, and that it would have been obvious to substitute a rail aperture "in order to

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increase efficiency" as taught by Garrity, Loomer or Kalm '286. Applicants disagree.

Kalm '660 discloses a roller conveyor having a programmable logic controller (PLC) 60A or a drive roller controller (DRC) 60B, where the PLC/DRC may be mounted to a frame element. See Figure 1 and column 7, lines 20-40. Kalm '660 also discloses a photo sensor/reflector type detector which includes a photo sensor part 68 mounted underneath the rollers 16 of the roller conveyor section 10 to one of the side frames 14 using a bracket 70. The reflector part 72 of the detector is affixed to the upper inner plate portion 26 of the other side frame 14. See Fig 1 and column 7, lines 40-57.

The photo sensor 68 of Kalm '660 is clearly not mounted to a circuit board, and clearly does not detect the presence of an object through an aperture in a frame element.

In order to support a rejection of claim 1 under 35 USC § 103, either Garrity, Loomer or Kalm '286 would have to teach a rail having an aperture, a sensor mounted to a circuit board, and the circuit board being positioned such that the sensor may detect the presence of an object through the aperture in the rail. The reference would further have to provide clear and particular motivation to substitute those teachings in place of the photo sensor 68 and reflector 72 as disclosed in Kalm '660. Garrity, Loomer and/or Kalm '286 do not provide this teaching. An obviousness rejection pursuant to 35 U.S.C. §103 is therefore improper.

Applicants assert that neither Garrity, Loomer nor Kalm '286 individually or in combination disclose or suggest a rail having an aperture, a sensor mounted to a circuit board, and the circuit board being positioned such that sensor may detect the presence of an object through the aperture in the rail.

Garrity discloses sensor elements 14, 24 which are mounted to brackets which are mounted to the opposing rails. Garrity does not disclose or suggest a sensor that is mounted to the circuit board. Garrity does not disclose or suggest a sensor which detects the presence of an object through an aperture in a rail.

Loomer discloses a gap optimizer. Loomer does not disclose or suggest a circuit board mounted to a rail or a sensor which detects the presence of an object through an aperture in a rail.

Kalm '286 does not disclose or suggest a sensor mounted to a circuit board.

Therefore, Kalm '660 in view of either Garrity or Loomer or Kalm '286 fails to

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disclose or suggest the limitations of claim 1.

Further, the alleged motivation to modify Kalm '660 is not understood. The Examiner asserts that either Garrity, Loomer or Kalm '286 provides a suggestion to modify Kalm '660 and arrive at claim 1 in order to "increase efficiency." However, it is not understood what feature of the conveyor would become more efficient, or how substituting the placement of the sensors would increase efficiency of the conveyor as alleged by the Examiner. Applicants respectfully request that the Examiner provide a declaration pursuant to 37 CFR § 1.104(d)(2) that the provision of a rail aperture increases efficiency.

Further, the applied references do not provide reasons why one type of sensor assembly would be superior to another type of sensor assembly. It is not understood why a person would be motivated to substitute a sensor assembly from Garrity, Loomer or Kalm '286 when there is no prior art teaching that such a sensor assembly is superior to the sensor assembly disclosed in Kalm '660.

As 35 U.S.C. §103 and the Federal Circuit make clear, when considering obviousness, the Examiner must consider the claimed invention "as a whole". See *Ruiz v. A.B. Chance Co.*, 69 USPQ2d 1686, 357 F3d 1270 (Fed. Cir. 2004). Section 103 of title 35 of the United States Code states:

A patent may not be obtained ... if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. 35 U.S.C. §103(a) (2000).

In making the assessment of differences, section 103 specifically requires consideration of the claimed invention "as a whole." Inventions typically are new combinations of existing principles or features. *Envil. Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 698 [218 USPQ 865] (Fed. Cir. 1983) (noting that "virtually all [inventions] are combinations of old elements."). The "as a whole" instruction in title 35 prevents evaluation of the invention part by part. Without this important requirement, an obviousness assessment might break an invention into its component parts (A + B + C), then find a prior art reference containing A, another containing B, and another containing C, and on that basis alone declare the invention obvious. This form of **hindsight** reasoning, using the invention as a roadmap to find its prior art

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components, would discount the value of combining various existing features or principles in a new way to achieve a new result – often the very definition of invention. See *Ruiz v. A.B. Chance Co.*, 69 USPQ2d 1686, 357 F3d 1270 (Fed. Cir. 2004).

Section 103 precludes this **hindsight** discounting of the value of new combinations by requiring assessment of the invention as a whole. The Federal Circuit has provided further assurance of an “as a whole” assessment of the invention under §103 by requiring a showing that an artisan of ordinary skill in the art at the time of invention, confronted by the same problems as the inventor and with no knowledge of the claimed invention, would select the various elements from the prior art and combine them in the claimed manner. In other words, the Examiner must show some suggestion or motivation, before the invention itself, to make the new combination. See *In re Rouffet*, 149 F.3d 1350, 1355-56 [47 USPQ2d 1453] (Fed. Cir. 1998).

In order to combat impermissible hindsight, the Federal Circuit has also made it clear that the showing of a motivation to combine two or more references must be "clear and particular". See for example *Winner International Royalty Corp. v. Wang*, 53 USPQ2d 1580, 202 F3d 1340 (Fed. Cir. 2000).

In the immediate application, the Examiner has not pointed to any clear and particular prior art motivation to modify any of the applied references. The addition of Huber, Wielevski, Hall, Taylor and Itoh fail to provide further claim limitations with respect to claim 1, and also fail to provide any clear and particular motivation to modify and/or combine the applied references to arrive at claim 1.

Therefore, Applicants assert that independent claim 1 is patentable over the applied references. Claims 2-9 depend from independent claim 1 and are therefore also patentable over the applied references for at least the reasons discussed with respect to claim 1. Accordingly, Applicants request the withdrawal of the rejections under 35 USC § 103.

### **Conclusion**

Based on at least the foregoing amendments and remarks, Applicants submit this application is in condition for allowance. Favorable consideration and prompt allowance of claims 1-9 and 25-31 are earnestly solicited.

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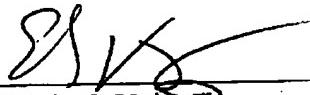
Should the Examiner believe that anything further would be desirable in order to place this application in better condition for allowance, the Examiner is invited to contact Applicants' undersigned representative at the telephone number listed below.

Respectfully submitted,

VIDAS, ARRETT & STEINKRAUS

Date: 4-14-, 2005

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